Volume 9 • Number 5 • 2006
VALUE IN HEALTH

Cost-Effectiveness of Olanzapine as a First-Line Treatment: A Response to Comment

To the Editor—We appreciate the interest from Dr. Basu in our recent manuscript and are pleased with the favorable comments about the study design, its robust analysis, and important results. We welcome the opportunity to further discuss our findings and address Dr. Basu's comments about the economic evaluations of the fail-first design. Dr. Basu astutely observed that a small proportion of the patients randomized to treatment with conventional antipsychotics (about one-third of this group) were successfully treated with conventional antipsychotics, thus incurred lower medication costs than patients who were successfully treated with olanzapine. Dr. Basu extrapolated from our data, and hypothesized that if a subset of patients who would be successfully treated by both medications were treated with conventional antipsychotics, there would then be an average cost saving of $367 per patient per year. While under a set of assumptions these calculations are correct, these calculations ignore the findings that two-thirds of the patients who would be started on conventional antipsychotics, would not be successfully treated, thus incur higher relapse-related costs.

By virtue of the randomized nature of our 1-year study, the total cost for olanzapine therapy estimates the average annual cost per patient if all patients in the population had been treated with olanzapine. Similarly, our estimates for the fail-first on conventional antipsychotics produce estimates that had a fail-first algorithm been used for all patients. Thus, these estimates—which show no difference in total costs—are a valid approach to answering the question of the cost of a fail-first policy. Showing the benefit of a fail-first by demonstrating medication cost advantages for a small subset of the patients is not sufficient.

It is vital to recognize that for patients with schizophrenia, treatment failure is not without adverse clinical, social, legal, and economic ramifications, primarily because of relapse and hospitalizations [1,2]. The total costs of treatment failure should therefore be incorporated into any decision-making process about antipsychotic medication choice.

That said, Dr. Basu's observations raise an important point. If one were to be able to identify, with high accuracy, which patients would and would not respond to conventional antipsychotics before treatment—then some form of cost savings by using conventional antipsychotics in this subset may be realized. Nevertheless, no such accurate model has been developed to date, and providers are unable to accurately and reliably identify in advance who will successfully respond to what medication.

Interestingly, Dr. Basu opted to multiply the hypothesized $367 cost savings by 5, to reflect a potential 5-year cost saving of $1731 per patient. We find this extrapolation speculative. Not only is it based on extrapolating the hypothesized 1-year cost savings, it also assumes that patients will continue treatment with the conventional antipsychotic for 5 years. This assumption is inconsistent with the dynamic nature of pharmacotherapy for schizophrenia [3]. The CATIE Schizophrenia trial [4] has shown, for example, patients with schizophrenia stay on their initial randomized antipsychotic medications for an average of 6 months, with differences in median treatment duration among the studied antipsychotics (olanzapine 9.2 months, perphenazine—a conventional antipsychotic—5.6 months, risperidone 4.8 months, quetiapine 4.6 months, and ziprasidone 3.5 months). Therefore, findings suggest that Dr. Basu's hypothesized savings—while theoretically plausible—are not likely to materialize because the stated assumptions are incongruent with real-world medication utilization practices.—Sandra L. Tunis, PhD, Independent Research Consultant, Douglas E. Faries, PhD, Allen W. Nyhuis, MS, Bruce J. Kinon, MD, and Haya Ascher-Svanum, PhD, US Medical Division, Eli Lilly and Company, Indianapolis, IN, USA; and Ralph Aquila, MD, The Center for Reintegration, New York, NY, USA.

References

1 Wu EQ, Birnbaum HG, Shi L, et al. The economic burden of schizophrenia in the United States in 2002. J Clin Psychiatry 2005;66:1122–9.
2 Almond S, Knapp M, Francois C, et al. Relapse in schizophrenia: costs, clinical outcomes and quality of life. Br J Psychiatry 2004;184:346–51.
3 Leslie DL, Rosenheck RA. From conventional to atypical antipsychotics and back: dynamic processes in the diffusion of new medications. Am J Psychiatry 2002;159:1534–40.
4 Lieberman JA, Stroup TS, McEvoy JP, et al. Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) Investigators: effectiveness of antipsychotic drugs in patients with chronic schizophrenia. N Engl J Med 2005;353:1209–23.

10.1111/j.1524-4733.2006.00126.x